

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA", and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

L.S. Starrett Company

is authorized to discharge from a facility located at

**121 Crescent Street
Athol, Massachusetts 01331**

to receiving waters named **Millers River (01080202-Millers River Watershed)**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on the date of signature

This permit and the authorization to discharge expire at midnight, September 30, 2007.

This permit supersedes the permit issued September 30, 1999.

This permit consists of 9 pages in Part I including effluent limitations, monitoring requirements, etc., ATTACHMENT A -Toxicity Testing Protocol and 35 pages in Part II including General Conditions and Definitions.

Signed this 10th day of February, 2004

SIGNATURE ON FILE

Linda M. Murphy, Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, Massachusetts

Director, Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, Massachusetts

PART I**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

1. During the period beginning the effective date and lasting through expiration date the permittee is authorized to discharge process wastewater from outfall serial number 002. Samples shall be taken at the end of the discharge pipe.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirement</u>	
	<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow (MGD)	0.07	-----	-----	Continuous	Recorder
pH (S.U)	(see Part I.A.3.a)			Continuous	Recorder
TSS (mg/l)	20	-----	30	2/Month	Composite ¹
Cyanide, Total (mg/l)	0.50	-----	1	2/Month	Grab
Cyanide, Amenable (mg/l)	0.05	-----	0.1	2/Month	Grab
Chromium, Total (mg/l)	0.50	-----	1	2/Month	Composite ¹
Chromium, Hexavalent (mg/l)	0.05	-----	0.1	2/Month	Grab
Copper, Total (mg/l)	0.79	-----	1.0	2/Month	Composite ¹
Nickel, Total (mg/l)	2.38	-----	3	2/Month	Composite ¹
Zinc, Total (mg/l)	1.48	-----	2	2/Month	Composite ¹
Aluminum, Total (mg/l)	1	-----	2	2/Month	Composite ¹
Lead (mg/l)	0.119	-----	0.69	1/Quarter	Composite ¹
Silver (mg/l)	0.026	-----	0.082	1/Quarter	Composite ¹
Cadmium (mg/l)	0.083	-----	0.178	1/Quarter	Composite ¹
Chlorine (mg/l)	0.7	-----	1	1/Month	Grab
Total Toxic Organics, TTO (mg/l)	-----	-----	2.13	1/Quarter	Grab
Trichloroethylene (mg/l)	-----	-----	Report	1/Quarter	Grab

LC50^{2,3,4}(See Attachment A) -----

>50%

2/year
Compo
site¹

PART I.**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

2. During the period beginning the effective date and lasting through expiration date the permittee is authorized to discharge non-contact cooling water from outfalls serial numbers 004, 005, 006, and 007 (see Footnotes 5 and 6 for conditions for discharge). Sampling shall occur at end of pipe.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>		<u>Discharge Limitations</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow (gpd)	Outfall 004	-----	-----	7,200	1/Day	Estimate
	Outfall 005	-----	-----	20,000	1/Day	Estimate
	Outfall 006	-----	-----	71,000	1/Day	Estimate
	Outfall 007	-----	-----	98,200	Continuous	Recorder
Temperature	Outfall 004	85°F	-----	-----	1/Day	Grab
	Outfall 005	85°F	-----	-----	1/Day	Grab
	Outfall 006	85°F	-----	-----	1/Day	Grab
	Outfall 007	85°F	-----	-----	1/Week	Grab
pH (S.U.)	Outfall 007		(see Part I.A.3.a)		1/Week	Grab

Footnotes:

1. A composite sample shall consist of a minimum of eight grab samples collected at equal intervals over a working day and combined proportional to flow, or a sample continuously collected proportionally to flow over the same time period. Composite samples shall be representative of typical discharge levels of pollutants for which there is an established limit. More frequent sampling may be necessary to reflect process variability.
2. The permittee shall conduct acute toxicity tests twice per year. The permittee shall test the daphnid, Ceriodaphnia dubia, and the fathead minnow Pimephales promelas. Toxicity test samples shall be collected during the third week of the months of July and October. The test results shall be submitted by the last day of the month following the completion of the test. The results are due August 31st, and November 30th, respectively. The tests must be performed in accordance with test procedures and protocols specified in Attachment A of this permit.

Test Dates Third Week in	Submit Results By:	Test Species	Acute Limit LC ₅₀
July October	August 31st November 30th	<u>Ceriodaphnia dubia</u> (daphnid) <u>Pimephales promelas</u> (fathead minnow) See Attachment A	≥ 50%

After submitting **one year** and a **minimum** of two consecutive sets of WET test results, all of which demonstrate compliance with the WET permit limits, the permittee may request a reduction in the WET testing requirements. The permittee is required to continue testing at the frequency specified in the permit until notice is received by certified mail from the EPA that the WET testing requirement has been changed.

3. The LC₅₀ is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 50% limit means that a sample of 50% effluent shall cause no more than a 50% mortality rate.
4. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A Section IV., DILUTION WATER** in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called "Guidance Document")

which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The “Guidance Document” has been sent to all permittees with their annual set of DMRs and Revised Updated Instructions for Completing EPA’s Pre-Printed NPDES Discharge Monitoring Report (DMR) Form 3320-1 and is not intended as a direct attachment to this permit. Any modification or revocation to this “Guidance Document” will be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in Attachment A.

5. Non Contact Cooling Water Outfalls 004, 005, and 006 are for emergency use only and to be used only in the event of a breakdown of the reuse system, including the inability to discharge through outfall 007. Flow shall be estimated and temperature shall be measured once per day when these outfalls are in use.
6. Outfall 007 is allowed to discharge a maximum daily flow of 98,200 gallons per day in the event of a breakdown of the reuse system, but is expected to discharge an average flow of about 20,000 gallons per day. The facility may not discharge more than a total of 98,200 gallons per day of non contact cooling water through any combination of outfalls.

PART I. A.3.

The following applies to all discharges:

- a. The pH shall not be less than 6.5 standard units nor greater than 8.3 standard units.
- b. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- c. Chemical addition will be allowed only with prior approval by EPA and MA DEP.
- d. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life; or which would impair the usages designated by the classification of the receiving waters.
- e. The discharge shall not cause visible discoloration or turbidity in the receiving waters which would impair the usages designated by the classification of the receiving waters.

PART I. A.4. Total Toxic Organics

The term “Total Toxic Organics” (TTO) is the summation of all quantifiable values greater than 0.01 milligrams per liter (mg/l) for the following toxic organics:

Acenaphthene	Acenaphthalene	Napthalene
Acrole	Anthracene	Nitrobenzene
Acrylonitrile	1,12-benzoperylene	2-nitrophenol
Benzene	(Benzo(ghi)perylene)	4-nitrophenol
Benzidine	Fluorene	2,4-dinitrophenol
Carbon tetrachloride	phenanthrene	4,6-dinitro-o-cresol
(tetrachloromethane)	1,2,5,6-dibenzanthracene	N-nitrosodimethylamine
Chlorobenzene	(Dibenzo(a,h)anthracene)	N-nitrosodiphenylamine
1,2,4-trichlorobenzene	Indeno(1,2,3-cd)pyrene	trichloroethylene
Hexachlorobenzene	(2,3,6-phenylene pyrene)	Vinyl chloride (chloro ethylene)
1,2-dichloroethane	Pyrene	Aldrin
1,1,1-trichloroethane	Tetrachloroethylene	Dieldrin
Hexachloroethane	Toluene	Chlordane (technical mixture)
1,1-dichloroethane	1,3-dichlorobenzene	And metabolites)
1,1,2-trichloroethane	1,4-dichlorobenzene	4,4-DDT
1,1,2,2-tetrachloroethane	3,3-dichlorobenzidine	4,4-DDE (p,p-DDX)
Chloroethane	1,1-dichloroethylene	4,4-DDD (p,p-TDE)
Bis (2-chloroethyl) ether	1,2-trans-dichloroethyl	Alpha-endosulfan
2-chloro ethyl vinyl ether	2,4-dichlorophenol	Beta-endosulfan
(mixed)	1,2-dichloropropane	Endosulfan sulfate
2-chloronaphthalene	(1,3-dichloropropane)	Endrin
2,4,6-trichlorophenol	2,4-dimethylphenol	Endrin aldehyde
Parachlorometa cresol	2,4-dinitrotoluene	Heptachlor
Chloroform (trichloromethane)	2,6-dinitrotoluene	Heptachlor epoxide
2-chlorophenol	1,2-diphenylhydrazine	(BHC-hexachlorocyclohexane)
1,2-dichlorobenzene	Ethylbenzene	Alpha-BHC
N-nitrosodi-o-propylamine	Flouranthene	Beta-BHC
Pentachlorophenol	4-chlorophenyl phenyl ether	Gamma-BHC
Phenol	4-Bromophenyl phenyl Ether	Delta-BHC
Bis(2-ethylhexyl) phthalate	Bis(2-chloroisopropyl)ether	(PCB-polychlorinated biphenyls)
Butyl benzyl phthalate	Bis (2-chloroethoxy) methane	PCB-1242 (Arochlor 1242)
Di-o-butyl phthalate	Methylene chloride	PCB-1254 (Arochlor1254)
Di-o-octyl phthalate	(Dichloromethane)	PCB-1221 (Arochlor 1221)
Diethyl phthalate	Methyl chloride	PCB-1232 (Arochlor 1232)
Dimethyl phthalate	(Chloromethane)	PCB-1248 (Arochlor 1248)
1,2-benzanthracene	Methyl bromide (bromomethane)	PCB-1260 (Arochlor 1260)
(benzo(a)anthracene)	Bromoform (tribromomethane)	PCB-1016 (Arochlor 1016)
Benzo(a)pyrene (3,4-benzopyrene)	Dichlorobromomethane	Toxaphene
3,4-Benzofluoranthene	Chlorodibromomethane	2,3,7,8-tetrachlorodibenzo-p-dioxin(TCI)
(benzo(b)fluoranthene)	Hexachlorobutadiene	
1,1,2-benzofluoranthene	Hexachlorocyclopentadiene	
(benzo(k)fluoranthene)	Isophorone	
Chrysene		

In monitoring for Total Toxic Organics, the permittee need analyze for only those pollutants which would reasonably be expected to be present. The permittee may make the following certification on its monitoring reports in lieu of conducting an analysis: “Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitations for total toxic organics (TTO). I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewater has occurred

since filing of the last discharge monitoring report. I further certify that this facility is implementing the solvent management plan submitted to the permitting authority."

In requesting the certification alternative, the permittee shall submit a solvent management plan that specifies, to the satisfaction of the permitting authority: the toxic organic compounds used; the method of disposal used instead of dumping, such as reclamation, contract hauling, or incineration; and the procedures for ensuring that toxic organics do not routinely spill or leak into the wastewater. This plan shall become a part of and an enforceable provision of this permit.

Part I.A.5

All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

- a.. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if the discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micro-grams per liter (500 ug/l for 2, 4-dinitrophenol and for 2- methyl-4 6- dinitrophenol; and one milligram per liter (1 mg/l)for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR Section 122.21 (g) (7); or
 - (4) Any other notification level established by the Director in accordance with 40CFR Section 122.44 (f).
- b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) Five hundred micrograms per liter (500 ug/l);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR Section 122.21 (g) (7); or
 - (4) Any other notification level established by the Director in accordance with 40 CFR Section 122.44 (f).

B. MONITORING AND REPORTING

1. Reporting

Monitoring results obtained during each calendar month shall be summarized and reported on Discharge Monitoring Report Form(s) **postmarked no later than the 15th day of the following month following the effective date of the permit.**

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

The State Agency is:

Massachusetts Department of Environmental Protection
Central Regional Office- Bureau of Waste Prevention
627 Main Street
Worcester, MA 01608

Signed and dated Discharge Monitoring Report Forms and toxicity test reports required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

C. STATE PERMIT CONDITIONS

This discharge permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) under federal and state law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MA DEP pursuant to M.G.L. Chap.21, §43.

Each agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the agency taking

such action, and shall not affect the validity or status of this permit as issued by the other Agency, unless and until each agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared, invalid, illegal or otherwise issued in violation of state law such permit shall remain in full force and effect under federal law as an NPDES permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of federal law, this permit shall remain in full force and effect under state law as a permit issued by the Commonwealth of Massachusetts.